



174/6

PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: MICHAEL ROWE

853.615

Date of Application and filing Complete Specification: March 11, 1957.

No. 8006/57.

Complete Specification Published: Nov. 9, 1960.

EXAMINER

COPY

DIV. 6.3

Index at acceptance:—Classes 38(1), E(9B:21); and 44, BE4D.

International Classification:—F06b. H02f.

COMPLETE SPECIFICATION

Improvements in or relating to Earthing Clamps

I, SIDNEY ALFRED LEWIS WEEDEN, a British subject, of 4A, New Road, Brighton, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to earthing clamps, its object being to provide an improved construction of clamp which is applicable in a very simple manner and substantially without alteration to rod-like conductor members of diameters within widely varying limits.

According to the present invention an earthing clamp for attachment to rod-like conductor members comprises a housing to seat at its base against the rod-like conductor member, a gripper member movable within the housing and apertures adjacent two opposite walls of the housing, a strip of flexible material for engagement about the periphery of the rod-like conductor member, said strip being passed through the apertures in the gripper member and thereafter bent over to be gripped between the side walls of the housing and the part of itself passing about the conductor member, and means for drawing the gripper member up within the housing to pull the strip tight about the rod-like member, and to clamp a cable in electrical contact with the housing.

Preferably the base is shaped to correspond to the usual cylindrical outer surface of a rod-like conductor member and advantageously the housing is completely open at its base so that the gripper member may be readily removable.

In one convenient form of construction, the gripper member includes a plate having parallel apertures in the form of slots adjacent the side walls of the housing to receive the ends of the strip therein.

Means for drawing the gripper member up within the housing may consist, for example, of a threaded stem on the gripper member arranged to protrude out through the housing

and a nut threaded on said stem externally of the housing.

Said drawing means also serve to grip the cable end against the housing, e.g. with the interposition of a washer on the threaded stem, the cable end being gripped between the washer and the housing. Again, a clamping member for the cable end may be provided e.g. in the form of a U-shaped member centrally apertured to engage on the threaded stem and arranged with its depending legs engaged slidably through slots provided in the housing.

The strip material may be any that is capable of being fairly easily bent and cut off to the required length, provided that it is capable of sustaining the tension which is applied to it when the clamp is tightened. By way of example it is suggested to utilise a plain strip of copper or tinned iron, a suitable length being cut off with shears or scissors. Any suitable length can be cut off, according to the diameter of the conductor member on which the clamp is to be engaged, and the same construction of clamp can therefore be utilised with conductor members of diameters varying within very wide limits.

In order that the nature of the invention may be readily ascertained, an embodiment of clamp in accordance therewith is hereinafter particularly described with reference to the figures of the accompanying drawing, wherein:

Fig. 1 is a central vertical section of the clamp.

Fig. 2 is an end view of the clamp as applied to a conductor member.

Fig. 3 is a perspective view of part of the clamp to illustrate a detail thereof.

In these figures, the clamp consists of a housing 1 having a hood portion the opening of which is provided with a base flange 2 shaped all round to lie against and fit firmly upon the cylindrical outer surface of a conductor member 10. Within the hood portion of the housing is disposed loosely a gripper member

consisting of a slotted plate 3 to which is secured centrally, by brazing or otherwise, a threaded stem 4. The plate 3 has two parallel slots one at each end of the stem, these slots being of a width and length suitable to receive as a loose fit a strip 5 of flexible metal which is used to encircle the conductor on which the clamp is to be fitted. The slots are located adjacent the opposite walls of the housing and the size of the plate 3 is such that there is just room between its lateral edges and the internal wall of the housing for one thickness of the metal strip 5 to be forcibly slid therein. The hood portion of the housing is apertured centrally at 6 for passage of the threaded stem 4. It is also slotted at 7 each side of the central hole to receive the arms of a U-shaped wire clamping member 8 which can slide freely in said slots. The wire clamp is also centrally apertured to engage on the threaded stem as a loose fit. On the free end of the stem is provided a conventional nut 9.

The manner of use of the clamp will be apparent from Fig. 2. A suitable length of the plain metal strip 5 is selected to pass about the conductor 10, leaving a small amount to turn over at each end. The two ends of the strip are passed one through each end of the lateral slots of the plate 3 and thereafter the tip of each is bent down and about the side of the plate (see Fig. 3). The housing is then placed into position with the free end of the stem 4 emerging through its central hole. The wires of a cable 11 such as an earthing lead, are then twisted about the stem, whereafter the wire clamping member 8 is put into position so as to embrace the wires wound about the threaded stem. Finally, the nut 9 is threaded on to the stem 4 and tightened. This pulls the clamping member 8 towards the housing, thereby gripping the wire ends and clamping them into electrical contact with the housing, and at the same time pulls the plate up into the inside of the hood portion of the housing. Simultaneously, the strip 5 is tightened about the conductor 10 and the turned over tips of the strips 5 are gripped between the bottom edge of the housing and the part of the strip passed about the conductor. The nut 9 is therefore tightened until a suitable tension is obtained in the strip 5, this being sufficient also to retain the wire ends clamped by the clamping member 8. It will be apparent that the strip 5 is plain and need not be provided with ends or be specially treated in any way. Accordingly, any suitable length can be readily cut off a bulk supply, e.g. a reel of copper or tin-plate. Thus, the same clamp will suffice for use with conductors of substantially any diameter within a very wide range and capable of seating against the shaped underside of the housing. The one tightening action, viz. simple rotation of the nut 9, ensures both the

clamping of the wires of the cable 11 and the gripping of the ends of the strip 5.

WHAT WE CLAIM IS:—

1. An earthing clamp for attachment to rod-like conductor members comprising a housing to seat at its base against the rod-like conductor member, a gripper member movable within the housing and apertured adjacent two opposite walls of the housing, a strip of flexible material for engagement about the periphery of the rod-like conductor member, said strip being passed through the apertures in the gripper member and thereafter bent over to be gripped between the side walls of the housing and the part of itself passing about the conductor member, and means for drawing the gripper member up within the housing to pull the strip tight about the rod-like member and to clamp a cable in electrical contact with the housing.
2. A clamp as claimed in claim 1, wherein the base of the housing is shaped to correspond to the cylindrical outer surface of the rod-like conductor member.
3. A clamped as claimed in either of claims 1 and 2, wherein the housing is open at its base.
4. A clamp as claimed in any one of the preceding claims wherein the gripper member includes a plate having apertures in the form of parallel slots adjacent the side walls of the housing to receive the ends of the strip therein.
5. A clamp, as claimed in any one of the preceding claims, wherein the means for drawing the gripper member up within the housing consists of a threaded stem on the gripper member arranged to protrude out through the housing, and a nut threaded on said stem externally of the housing.
6. A clamp as claimed in any of claims 1 to 4 wherein the means for drawing the gripper member up within the housing also serve to grip the cable end against the housing.
7. A clamp as claimed in claim 5, wherein a washer is provided on the threaded stem for the engagement of the cable end between said washer and the housing.
8. A clamp as claimed in claim 5, wherein a U-shaped clamping member for the cable end is centrally apertured to receive the threaded stem externally of the housing, the housing having slots into which the depending free ends of the clamping member slidably engage.
9. A conductor clamp constructed and arranged to operate substantially in the manner particularly described herein with reference to the figures of the accompanying drawings.

HUGHES & YOUNG,
7, Stone Buildings, Lincoln's Inn,
London, W.C.2.
Agents for the Applicants.

174-6

853,615
1 SHEET

COMPLETE SPECIFICATION

This drawing is a reproduction of
the Original on a reduced scale.

Fig. 1.

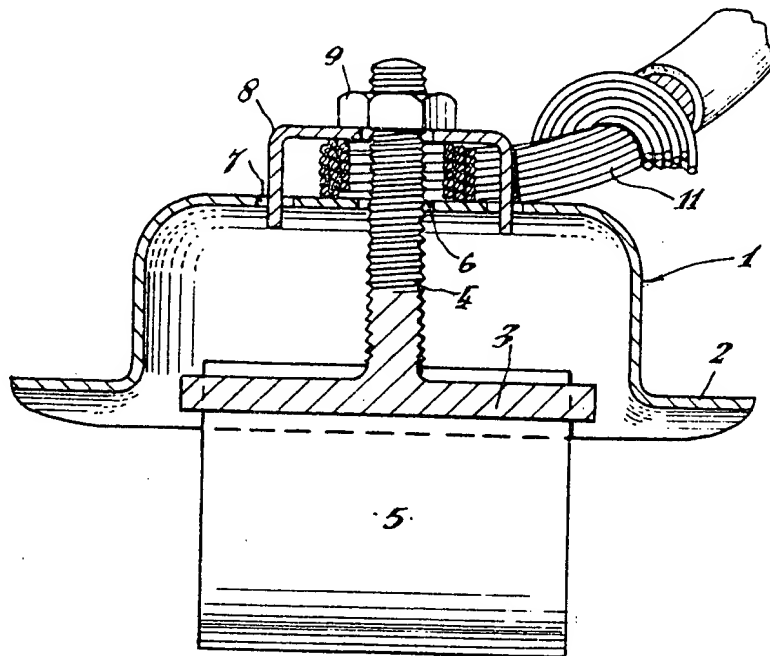


Fig. 2.

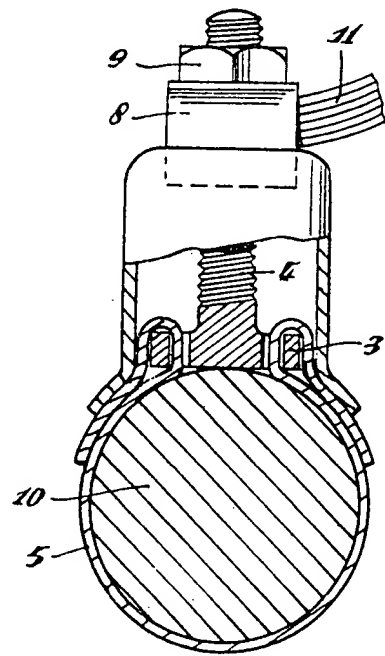


Fig. 3.

